

MINISTÉRIO PÚBLICO DO ESTADO DO CEARÁ  
ESCOLA SUPERIOR DO MINISTÉRIO PÚBLICO DO CEARÁ  
CENTRO DE ESTUDOS E APERFEIÇOAMENTO FUNCIONAL

REVISTA ACADÊMICA ESCOLA SUPERIOR  
DO MINISTÉRIO PÚBLICO DO CEARÁ

ANO 14, Nº1 (JAN./JUL. 2022) SEMESTRAL  
FORTALEZA-CE

ISSN FÍSICO: 2527-0206  
ISSN ELETRÔNICO: 2176-7939



# BLOCKCHAIN LEGALIZATION: BASIC NOMOTEHNICAL FRAMEWORK AND OPEN QUESTIONS<sup>1</sup>

*LEGALIZAÇÃO DO BLOCKCHAIN (“CADEIA DE BLOCOS”):  
ESTRUTURA NOMOTÉCNICA BÁSICA E QUESTÕES EM ABERTO*

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## ABSTRACT

It is human nature to conquer and submit to rules, so it is not surprising that blockchain case same intention comes to light, despite decentralization and the avoidance of supreme authority as the guiding idea of technology. In this paper, the author points out the relevant provisions of a single law that should regulate the application of blockchain technology in various spheres of social life in the future. Special emphasis is placed on the requirement to avoid partial solutions through special laws that regulate other issues different from blockchain, key parts of the legal text, stakeholders. In conclusion, author points to the objective need to enact a law on blockchain, elements that the legislator must take into account when passing the law and considers the application of sanctions in case of non-compliance with the law.

**Keywords:** Blockchain; Nomotechnics; Special law; Regulation; Legalization.

## 1 INTRODUCTION

Every regulation, including topic about blockchain regulation, is a tough job. At first regulation was imagined as a modification of existing laws. Now it seems that blockchain regulation is far more than few law adjustments. I strongly plead for full regulation in one but new law (“Blockchain Law”) no matter in form of directive, statute,

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<sup>1</sup> Data de Recebimento: 13/10/2022. Data de Aceite: 11/04/2022.

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special law etc., from the beginning. Existent regulation dealing e. g. currencies (“real money”) or fighting money laundry or theft doesn’t satisfy. Misunderstanding of new forms, shapes, techniques etc. reproduce various problems to everyone, including law makers. Blockchain Law should prescribe minimum requirements and leave the application of the option to retain more favorable provisions. Rights acquired based on the current blockchain consumption, beyond the legal framework, should continue to apply unless Blockchain Law introduces more favorable provisions. In any case, Blockchain Law mustn’t be used to reduce the existing rights in this area and can’t be a valid basis for reducing the general level of protection of rights and freedoms used so far by using blockchain technology. Blockchain’s decentralization, immutability, and anonymity characteristics attract many users seeking a secure and anonymous transaction platform. Although this also attracts users who have illegal intentions, it does not outweigh the benefits of the technology and appropriate regulation can address the limitations of the technology. Smart contracts will remove friction by seamlessly including agreement and enforcement into one protocol, thereby eliminating the possibility of breach. Legislative responses must consider an application of contract law to this new form of agreement and possibly adjust the rules or create a new regulatory scheme that governs contracts of this type. This type of technology sounds futuristic, but blockchain is simply an efficient and secure bookkeeping tool that could be used in any industry that records transactions. Property transfers could be paired with smart contracts to include multiple regulatory requirements into one automated agreement. This would cause a drop-in title insurance industry and reduce title dispute litigation.<sup>3</sup>

## 2 A NEED FOR LEGALIZATION

Why does society bring laws? The basic legal rule for something to be unlawful is that you have to legalize it first. Laws generally provide a legal framework to help resolve disputes between individuals. In blockchain, decentralization refers to the transfer of control and decision-making from a centralized entity (individual, organization, judge, arbitrator etc.) to a distributed network. Law creates conceptual and institutional framework that builds trust among individuals. Same trust is in the heart of blockchain technology itself. The area for possible illegal acts, including potential criminal offenses, almost doesn’t exist when applying blockchain technology. Money laundering using cryptocurrencies are exception. Discarding the blockchain technology legalization, with a strong demand that a regulation that regulates or needs to address issues associated with

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<sup>3</sup> Fulmer, Nathan (2019) “Exploring the Legal Issues of Blockchain Applications”, *Akron Law Review*: Vol. 52: Iss. 1. Article 5. Available at: <https://ideaexchange.uakron.edu/akronlawreview/vol52/iss1/5>

the ubiquitous use of blockchain technology must have the character of a regulation that allows something without sanctions in case of violation of the positive provisions of the regulation itself will not result in termination of blockchain technology development. People have different incentives to decide to legalize something. In one case it is intent to sell something, then to live a legacy or simply they want to live a quiet life “by the book” (law). It should be determined whether there is a public interest for blockchain legalization. Is there a critical mass that simply asks the legislator to take action and provide a regulation that’ll regulate an unregulated and still wide unexplored area. Of course, there are opposite opinion(s), that blockchain must fall outside of the regulatory provisions<sup>4</sup>. Legacy systems exist for a reason. By definition, they work. Both switching costs and uncertainty stand as barriers to the adoption of any new technology. Yet if the value of the new technology is overwhelming, such a change is more likely to occur. One way of reducing uncertainty is by situating the new in the old.<sup>5</sup> Often portrayed as a ‘trustless’ technology, blockchains actually shift the trust from intermediaries to code and coders. The technology is also not immune to governments stepping in to regulate its use, or to big companies turning the technology into centralized commercial services, potentially raising risks for expression and privacy. Some of the most radical and creative applications of blockchain technology, such as those related to eliminating a large set of intermediaries, would require a change of mindset that goes beyond a simple technological shift and requires long-term commitments to equip future generations with the knowledge and skills needed to remain relevant in what will be an increasingly automated future.<sup>6</sup> Modern society mustn’t allow that World Wide Web becomes Wild Wild West. Meaning, in time of Wild Wild West there were magistrates, judges that travelled all across the country, keeping the order. At present stage of society and civilization reach, we can’t let that World Wide Web and all attainments on and regarding it, remain deprived of all rules and become a breeding ground for lawlessness.

## 2.1 Over-regulation

Legal regulation should not be systematic but sufficient. The arguments for this thesis are as follows: (i) regulator must carry out its function to the extent that the subject matter of the regulation is so framed to keep space for the interpretation of regulations

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4 Nikolei M. Kaplanov, *Nerdy Money: Bitcoin, the Private Digital Currency, and the Case Against its Regulation*, 25 *Loy. Consumer L. Rev.* 111 (2012). Available at: <https://lawcommons.luc.edu/lclr/vol25/iss1/5>

5 Raskin, Max, *The Law and Legality of Smart Contracts* (September 22, 2016). 1 *Georgetown Law Technology Review* 304 (2017). <http://dx.doi.org/10.2139/ssrn.2842258>

6 Walid Al-Saqaf & Nicolas Seidler (2017) *Blockchain technology for social impact: opportunities and challenges ahead*, *Journal of Cyber Policy*, 2:3, 338-354, DOI: 10.1080/23738871.2017.1400084

by the relevant public bodies; (ii) providers of lower level must have the framework set up by a regulation with a stronger legal effect and not abuse the function of the regulator; (iii) all remaining subjects actively involved in the normative activity must be suspended from excessive activity when performing the function of the actor due to the obligation to comply with all the regulations of higher legal rank and the fact that their normative activity is not their basic function. Normative activity must have features of functionality, purpose and categorization. Exiting beyond these determinants will generate excessive legislative activity, a pile of useless regulations, inaccuracy, flippancy combined with inability to access task and inefficiency. If we regulate every single area of life in which blockchain appears with a special law act, surely there'll be overregulation. This is the problem with most of law branches today and should be avoided in blockchain case. That's the trap we shouldn't strike for. There isn't perfection and we shouldn't strive for perfect law. Always should be some space for mistakes.

### 3 STAKEHOLDERS

Bearer of Blockchain Law must be a legislator of a certain kind. United for European Union e. g., and individual for countries outside federal jurisdiction. Stakeholders to provide Blockchain Law are governments, since data protection impact personal freedoms & rights; national regulatory agencies for personal data protection; civil society organizations because of free movement of people and goods; specialized task forces for monitoring and analysis of the effects of the new legal regulation; initiatives of different kind. Corporate governance could change in many ways under a blockchain regime. Institutional investors, raiders, and activists could benefit from being able to purchase shares at lower cost and to sell them into a market with greater liquidity, but they would have a much more difficult time disguising their trades. Managers who obtain incentives from stock-based compensation would likely lose profit opportunities from legal insider trading, due to the greater visibility of their transactions. Blockchains would also deny managers opportunities to backdate compensation awards or covertly pledge shares for derivative transactions. Shareholder voting would become much more reliable and less costly. Companies might also use blockchains for real-time accounting, reducing the role of auditing firms, and for the execution of smart contracts, which would reduce the expected costs of financial distress and reduce the need for litigation. Together these changes could profoundly alter the relative power of managers, shareholders, lenders, regulators, and third party experts who interact in the corporate governance arena.<sup>7</sup> The

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<sup>7</sup> David Yermack, Corporate Governance and Blockchains, *Review of Finance*, 2017, 7–31 doi: 10.1093/rof/rfw074

major challenge for global civil society will soon be to explore new political and social dimensions, with the aim of integrating the applications of disruptive technologies such as the blockchain with citizens' rights, equality, social cohesion, inclusiveness, and protection of public sector. Such integration is vital and cannot be left to the (anti-) political engineering of IT experts, financial investors, and code developers: it requires indeed a mature and interdisciplinary effort by all the fields of human knowledge, with particular regard to political theory, humanities and social sciences, to best assess risks, benefits and outcomes of the new technologies. In the very next future, this integration might be the only safeguard left against many possible technological dystopias.<sup>8</sup> Blockchain technology is adaptable and policymakers must view it as such. Regulation designed to mitigate the risks of such a powerful technology should be encouraged. However, policymakers should exercise caution and precision in tailoring the scope of regulation. Regulation aimed at the blockchain's money-transfer and payment functionalities must not create an unintentional chilling effect on this second category of functionalities.<sup>9</sup> Blockchain developers cannot ignore the law, but neither can governments disregard the growing significance of the blockchain. One way to bridge the gap is for law to adapt. Some of that will happen naturally as regulators, legislators, and judges confront the challenges and opportunities this foundational new technology presents. More explicit steps can accelerate the process. At a time when trust in centralized power structures is waning, the blockchain's "trustless trust" offers a compelling alternative. Further growth will depend partly on technical advances, partly on adoption patterns, partly on the business innovations built on top of distributed ledger platforms, and partly on resolution of the governance challenges to the blockchain's trust architecture. It is tempting to see law and regulation primarily as impediments to these processes, but that would be a mistake. Too much law could stifle the blockchain or drive it underground, yet so could too little law. Regulators, legislators, and courts can take the initiative to create both clarity and explicit spaces for experimentation. Blockchain developers must also take responsibility to find common ground.<sup>10</sup>

#### **4 GENERAL "IMPACT" OF BLOCKCHAIN LAW**

Blockchain Law must define technology general use. There must be a general regu-

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8 Atzori, Marcella, Blockchain Technology and Decentralized Governance: Is the State Still Necessary? (December 1, 2015). Available at SSRN: <https://ssrn.com/abstract=2709713> or <http://dx.doi.org/10.2139/ssrn.2709713>

9 Trevor I. Kiviat, Beyond Bitcoin: Issues in Regulating Blockchain Transactions, 65 Duke L.J. 569 (2015). Available at: <http://scholarship.law.duke.edu/dlj/vol65/iss3/4>

10 Kevin Werbach, Trust, but Verify: Why the Blockchain Needs the Law, 33 Berkeley Tech. L.J. 487 (2018).

lation, in a form of a law, on what basis special regulations will be elaborated for further use of blockchain technology in segregate parts of everyday life (finance, banking, law, traffic etc.). Conservative approach is to consider Blockchain Law as a part of existent area(s) of law. It does affect a separate field of law but has impact to law science in general. Of course, it takes time that some “part” of legal science becomes a special, separate law field (e.g. labor law, criminal law etc.). In European Union, European Parliament resolution on distributed ledger technologies and blockchains: building trust with disintermediation (2017/2772 (RSP)) also is a partial solution, regarding on a first place to DLT. Partial solutions from legislators actually are an experiment. It’s well known that every rehearsal can easily go to wrong direction. This should be enough to warn regulators to leave experimentation. The legislator must reconcile seemingly irreconcilable: the principle of decentralization and the absence of “central figure” in blockchain technology with the effects of technology on human rights and the global economy. If we want to preserve the opportunities provided by emerging blockchain technologies - in terms of individual freedoms and emancipation, democratic institutions, and creative expression - while avoiding or reducing to the minimum the possible drawbacks that they might introduce in society, the time has come to start thinking about a new paradigm of law that could balance the power of blockchain technology and emerging autonomous systems in ways that promote economic growth, free speech, democratic institutions, and the protection of individual liberties<sup>11</sup>. Today’s all legal solutions regarding blockchain are partial (e. g. anti-money laundering/counterfinancing terrorism, crypto-assets, Initial Coin Offerings, tokens) and authors advocates for partial solutions. That’s wrong approach.

## **5 CLAIM FOR STATE (“LAW”) INTERVENTION**

It’s possible that investors in technology and others who perform various tasks related to profit, money transactions, etc., will seek protection from the state. Hacking and other forms of cybercrimes on a daily basis generate enormous damage. Individual attacks on “wallets” in which ordinary citizens hold their cryptocurrencies also aren’t uncommon. The state’s response can only be legal regulation. In case of a successful attack to the blockchain network, the injured party has no one to call for help or compensation. This is due to the blockchain technology decentralization, that is, the fact there is no regulatory element. Here the debate raises the issue of forks. Forks may raise complicated tax and legal questions, lead to substantial development costs and force

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<sup>11</sup> Wright, Aaron and De Filippi, Primavera, Decentralized Blockchain Technology and the Rise of Lex Cryptographia (March 10, 2015).

economic agents to make decisions under uncertainty. Consequently, each organization should define economic and financial threshold values, as well as other minimum requirements that must be fulfilled for a fork to be considered relevant. Custodians should add these standards to their terms and conditions and inform their clients that assets will only be made available, if they meet the minimum requirements.<sup>12</sup>

## 6 PARTIAL SOLUTIONS (REGULATION)

The first thing that comes to mind when talking about the need to regulate blockchain are cryptocurrencies. One research shows that regulators should not act, or hesitate to act, based on misunderstandings of the operation of the market. At the very least, to the extent that concerns about capital flight and price declines are at the forefront of regulators' minds as they determine how to address the significant challenges that cryptocurrencies raise, they should substantially adjust their priors.<sup>13</sup> Recent efforts around the globe to provide legal certainty to cryptocurrency based operations, and protection to various types of users and stakeholders have been a step in the right direction.<sup>14</sup> European Union brings Proposal for a Regulation of the European Parliament and of the Council on Markets in Crypto-assets, and amending Directive (EU) 2019/1937.<sup>15</sup> Assuming the technology is widely adopted, smart contracts will need to meet many of the same legal standards as traditional paper agreements. Smart contracts will benefit from the legal precedent established in the electronic marketplace including the acceptance of electronic signatures and promissory notes. At least initially, legislatures and regulators are not likely to enact entirely new statutory and regulatory schemes to accommodate smart contracts. Far more likely, public entities, including courts, will fashion new legal rules from existing constructs and adapt them to the new technology. This may present some growing pains along the way and could slow the adoption of blockchain technology and smart contracts, particularly in highly regulated financial institutions. Alternatively, it may make sense for state and federal governments—and eventually international counterparts—to adopt new or revised rules specifically applicable to blockchain technology and smart contracts. These rules would deal specifically with the

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12 Schär, Fabian. (2020). Blockchain Forks: A Formal Classification Framework and Persistency Analysis. 10.13140/RG.2.2.27038.89928/1.

13 Feinstein, Brian D. and Werbach, Kevin, The Impact of Cryptocurrency Regulation on Trading Markets (2021). Journal of Financial Regulation, forthcoming.

Available at SSRN: <https://ssrn.com/abstract=3649475> or <http://dx.doi.org/10.2139/ssrn.3649475>

14 Ellul, J., Galea, J., Ganado, M. *et al.* Regulating Blockchain, DLT and Smart Contracts: a technology regulator's perspective. ERA Forum 21, 209–220 (2020). <https://doi.org/10.1007/s12027-020-00617-7>

15 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020PC0593> (6. 6. 2021.)



mechanics of contract formation, enforceability, jurisdictional issues, and legal ethics related to smart contracts. However, adoption of new rules presents a proverbial chicken and the egg issue. It is unlikely that these rules can be developed adequately until the technology is more fully completed. However, the developers of the technology need some degree of certainty around the legal structure when developing the technology.<sup>16</sup>

## 7 REGULATION FLEXIBILITY

The regulator must be flexible and ready for dialogue, concession and compromise. Close collaboration with IT professionals is necessary. Human nature is to respond with resistance to any change. Regulator's task is to overcome that resistance and to allow everyone's voice to be heard. Duty refers to society in general and to every individual within the same society. A rational approach to the regulation problem encompasses the needs of blockchain innovators, investors, developers, lawyers, public authorities, legislators. Access to consumers must be the same as for blockchain creators. Law regulation must not be foe. Flexibility of Blockchain Law would make possible change of collective consciousness of the blockchain idea extermination with the regulation. At that point, legislators should take into account partial regulation for a start as the initial option of legal arrangement. The regulation must be fertile ground for future innovations and shouldn't, in any case, be restricted in order to achieve a general benefit of blockchain use. Evolution (law regulation) doesn't have to be revolution. Blockchain technology shouldn't be affected by regulation in a sense to be changed, in any part or any way. Processes, treatment, allocation of risks, protection of investments, use of technology for criminal purposes and other open questions need to be in the center of legislator interests.

### 7.1 Effective standardization

The eternal aspiration of all lawyers and legislators is to create effective regulation. There isn't unified solution to that problem. On the contrary, there aren't even partial solutions. No matter how good the law may be, there is no guarantee for effective practical application. We are spinning in a circle again and again and we must mention the (unfounded?) tendency to subject everything to laws and rules. *Unus pro omnibus, omnes pro uno* principle hereby should mean than one law regarding blockchain as a technology becomes the basis for general use of technology for the benefit of all. Guid-

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<sup>16</sup> Reggie O'Shields, Smart Contracts: Legal Agreements for the Blockchain, 21 N.C. Banking Inst. 177 (2017). Available at: <http://scholarship.law.unc.edu/ncbi/vol21/iss1/11>

ing thought of one or first legislator for all others and all users.

## 8 HOLISTIC APPROACH TO REGULATION

Comprehensive and direct regulatory approach is needed. Liechtenstein Blockchain Act is addressed to ‘transaction systems based on trustworthy technology’ (TT systems). They are setting higher standards in the crypto-industry by not only regulating it, but also enabling a holistic legal framework. The goal is to ensure user and service provider protection and building trust in digital legal regulations.<sup>17</sup> Successful innovation policy should be primary goal. Blockchain is a chain of blocks which contain information and the technology itself is used variously. Data stored inside the block depends on the type of blockchain. Regulator must consider technology in general, not just part(s) e. g. Bitcoin, smart contracts etc. Legislation always tends to lag behind innovation, and this will likely continue to be the case with smart contracts. However, if legislating bodies proactively engage in learning about this emerging technology, they can be as prepared as possible to embrace the societal benefits and reduce cybersecurity risks. Smart contracts hold the opportunity to create entirely new ways of transacting across the globe. Parties entering into these agreements will be able to quite literally observe how a transaction will play out based on the conditions written into the smart contract prior to entering into the agreement. Similar to debugging a program, contracting parties may be able to walk through a contract step-by-step to observe what will happen upon program execution. This increased transparency will allow contracting parties to specify their own terms for many aspects of their agreements in ways that may be easier than with traditional contracts. From time to time an industry will experience a technological development so new and revolutionary that it can be considered a paradigm shift, and requires a neoteric approach.<sup>18</sup>

## 9 BASIC TERMS DEFINING

One of the most important parts of every single regulation is defining basic terms. Legislators do this for avoiding misunderstanding or different interpretation of a particular term. Already defining is by itself difficult. In many cases, conceptual defining of some of the terms in the legal text doesn’t help. Legal implications for blockchain are wide and various but regulators shouldn’t worry about missing some definition: legal

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<sup>17</sup> <https://bca.com.mt/wp-content/uploads/2019/08/Comparison-of-crypto-regulation-EU-EEA-BCA.pdf>

<sup>18</sup> Raffi Teperdjian (2020) Proposing cybersecurity regulations for smart contracts, *Journal of Cyber Policy*, 5:3, 350-371, DOI: 10.1080/23738871.2020.1839924

framework including definitions of basic topic terms shall provide (or left) some place for praxis. Additionally, the blockchain is a living organism, evolving day by day. Each day is a new opportunity for evolution, of expression, terms, interpretation etc. So, “glossary” in law text must not be *numerus clausus* and unchangeable.

## 10 PENALTIES

The regulations that allow something relate to the free movement of subjects and therefore the violation of their requirements is not related to unlawfulness. Permit means giving you the freedom or the ability to do something. As a rule, any permitted action is not expressed through regulations. Otherwise, that would mean that all that is not allowed is forbidden. Legislators often resort to punishment to “boost” the norm. Penalties must be deterrent. One has to ask the question whether it is really necessary that every rule also contains a sanction for acting contrary to its content. “To understand what punishment is, we must know what they are activities of the state. We understand that punishment is coercion or forced interference state authorities in the rights of the individual, by which the state responds to criminal acts on behalf of society and its fundamental values. Why is that thus, we get a simple answer, which teaches us, that the individual lives in a social community, in a country that offers him a social, material one and personal safety, and therefore waives the right to a personal confrontation with the perpetrator criminal offense or conduct and leaves that function to the state coercive authorities. Punishment of any kind must not be an end in itself. Equally, sanctions always stem from legal regulation, in sequence which are inextricably linked to standardization. Sanctions must not represent a means of filling the state treasury, regardless of their the type, character or strength with which they affect the addressee of the norm. We must not equate criminal sanctions with (everything) sanctions, just as there is no concept of “unique criminal offense”. in the case of civil offenses, non-compliance with legal rules resulting in damage that may be monetary or intangible in nature. The main purpose of sanctioning is to return the injured party to a situation in which was before the loss. If the resulting situation allows for recovery, return to the condition that existed before the damage occurred, but if it did not possibly, only monetary compensation is taken into account. In case of material damage, it is possible to determine and execute. The problem arises with non-pecuniary damage. Because the legislator also recognizes non-pecuniary damage as a basis for damages, the injured party is entitled to it. The task of case law is to formulate criteria to assess this type of fee.”<sup>19</sup>

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<sup>19</sup> Ćupurdija, M.; Moslavac, B.; Jankovič, P., Murtič, S., Nomotehcnics Basics: Procedure and Framework of creating Legal Regulations, Libertin naklada, Rijeka, 2021, pp. 196, 204-205.

## 11 CONCLUSION

Blockchain legalization isn't an ambiguous thing. It's just another evolution step. For ordinary, everyday users of a blockchain technology and its opportunities the most important issue is the safety of their investment. Or is it anonymity that blockchain provides? Without any law regulation, we wide open the door to criminals. The importance of law regulation must be recognized. Digital economy is present, not future and we must comply. Real question is not is Blockchain Law necessary, yet are our communities capable of providing that, accepting and valuing their traditional values, without compromising blockchain essence. Legislators *status quo* is worst solution for all, because it stifles and actually hampers further blockchain development. New legal framework guarantees the security both the user and the investor, while at the same time protecting government from new technology abuses. Each country has to decide separately on the way it'll enforce the legal regulation of a blockchain. *Creatio ex nihilo* isn't core of the legislators though it should be.

## LEGALIZAÇÃO DO BLOCKCHAIN (“CADEIA DE BLOCOS”): ESTRUTURA NOMOTÉCNICA BÁSICA E QUESTÕES EM ABERTO

### RESUMO

É da natureza humana conquistar e submeter-se a regras, então não é surpreendente que, nos casos de blockchain, a mesma lógica seja trazida à luz, apesar da descentralização e da recusa a uma autoridade suprema como uma ideia norteadora da tecnologia. Neste artigo, o autor ressalta as disposições relevantes de uma única lei que deveria regulamentar a aplicação da tecnologia blockchain em diversas esferas da vida social no futuro. Uma ênfase especial é colocada na exigência de evitar-se soluções parciais através de leis especiais que regulem outros problemas diferentes do blockchain, partes-chave do texto legal, partes interessadas. Por fim, o autor salienta a necessidade objetiva de estabelecer uma lei sobre o blockchain, os elementos que o legislador deve levar em consideração ao aprovar essa lei e pondera a aplicação de sanções nos casos de descumprimento legal.

**Palavras-chave:** Blockchain (“cadeia de blocos”); Nomotécnico; Lei Especial; Regulamentação; Legalização.

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